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Air Navigation Global Update

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APIRG/21 Nairobi, Kenya 9 to 11 September 2017





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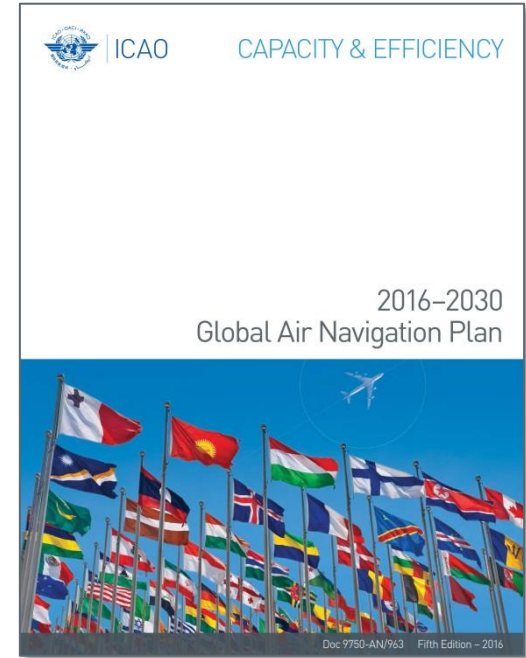
Table of Contents

- Global Air Navigation Plan (GANP)
- PCI Plan for Improved Implementation
- Tools
- Global and Regional events



2016-2030 Global Air Navigation Plan (GANP)

- **5th Edition of the GANP (2016-2030)**
 - Includes the 2016 edition of the Aviation System Block Upgrades (ASBU) document
 - Stability
- **Included improvements:**
 - Six-year cycle for the Blocks to align with Assembly cycles
 - Update of the ASBU framework and all technical roadmaps
 - Concept of performance-based approach as foundation for implementation strategies
 - Notion of minimum path
 - ATM logical architecture
 - Creation of GANP webpage





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2019 Update of the GANP



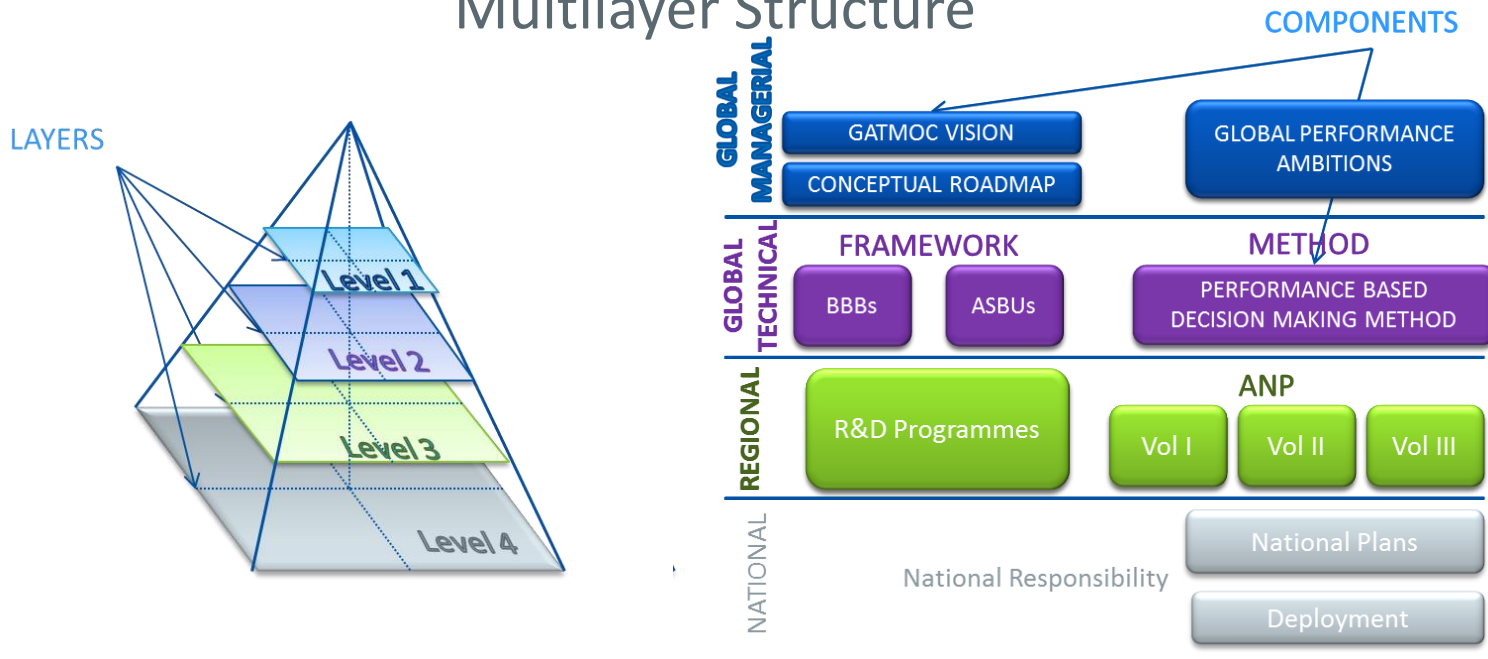
EXPECTATIONS

- Global Vision
- Useful for all stakeholders
- ICAO future provisions
- Solutions for local needs



2019 Update of the GANP

Multilayer Structure





TIMEFRAME

- **SANIS & GANIS Dec 2017**
 - Global Managerial level
 - Announcement of Global Performance ambitions: September 2017
 - Final draft performance ambitions and the conceptual roadmap: June 2017
 - First draft performance ambitions and define a conceptual roadmap: March 2017
- **Air Navigation Conference 9-19 October 2018**
 - Global managerial level:
 - ANC Final Rev: March 2019
 - ANC Prelim Review: Sept 2018



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TIMEFRAME

- **Assembly September 2019**
 - Global Managerial Level
 - Final Editing Publication: Jul 2019
 - Council Approval: May 2019
 - ANC Final Rev: March 2019
 - SL: Dec 2018
 - ANC Prelim Review: Sept 2018
 - Final Draft Coordination: April 2018 (GANP Document)

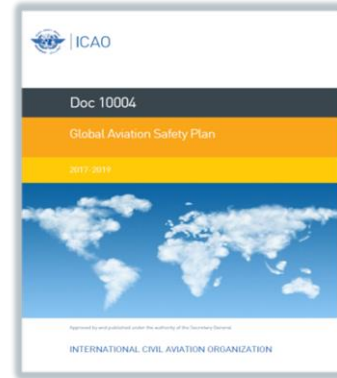
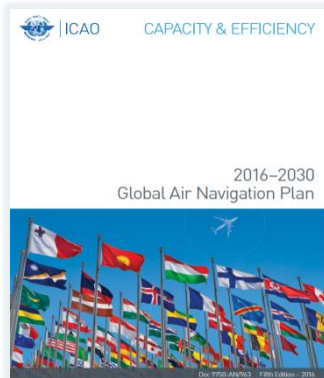


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UNITING AVIATION

Global Plans Implementation

GANP and GASP Developed need to be implemented



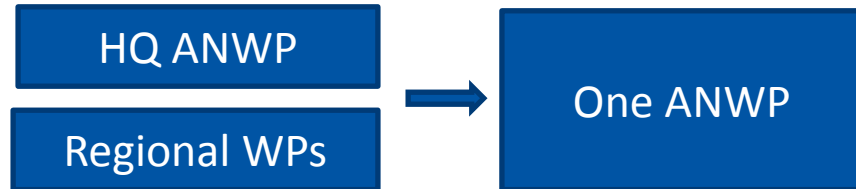


PCI Plan for Improved Implementation

- Creating a work programme: 2017
- ANC, ANB, RO/PIRGs Collaboration
- Project oriented from start to finish

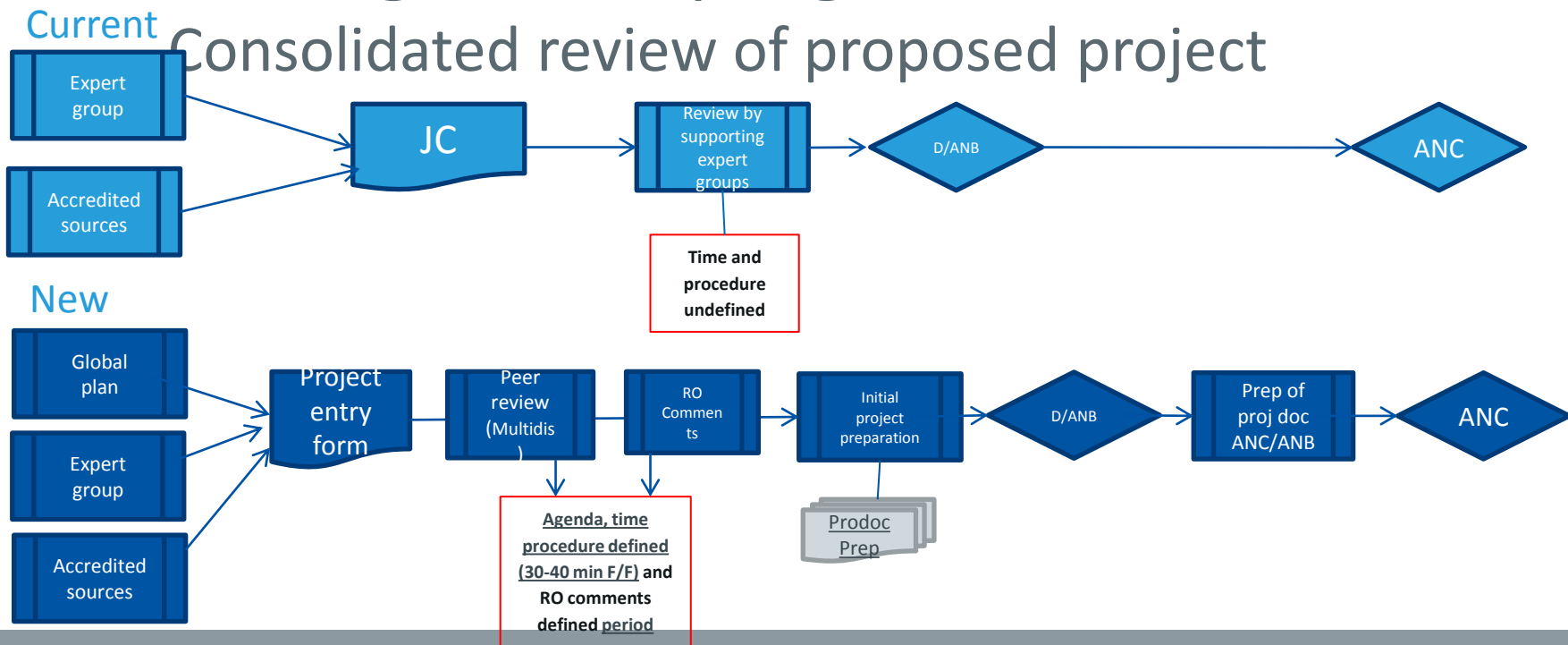


- Implementation driven





Creating a work programme: 2017





GLOBAL FORUM ON PIRGs/RASGs

- **13 December 2017, Montréal, Canada**
(to be held during the GANIS/SANIS Symposium)
 - Support implementation of meaningful operational improvements by exchanging information for the improvement of safety, capacity and efficiency through a Global PIRG/RASG Forum
 - Chairperson/Vice-chairperson participation



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Project Management and Coordination tool

- Facilitates coordination by providing transparency on the status of each project throughout Organization
- Management tool for executive management on progress



Air Navigation Implementation Application

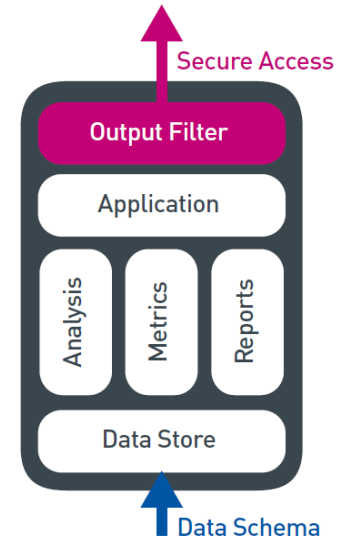
- The primary purpose of this dashboard is to inform all civil aviation stakeholders and ICAO regional bodies about the implementation progress and priorities;
 - Data is collected from States;
 - On the dashboard you can select a group of indicators from the dropdown lists and view the indicators below in various formats, including the generation of a PDF report.
 - APAC pioneered and promoted the development of this application and which will be used by all other regions;
- <https://portal.icao.int/space/Pages/ANPage.aspx>



Introducing Safety Information Monitoring System

The ICAO Safety Information Monitoring System (SIMS) is an ICAO web-based information system comprised of different **applications**, which generate **indicators** in support of State Safety Programmes (SSP) and Safety Management Systems (SMS).

- Track key indicators for SSP;
- Analyze various air navigation efficiency indicators for airspace use;
- Prioritize areas with identified safety concerns;.





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Upcoming Global and Regional Events



MON		TUE		WED		THU		FRI	
AM	PM	AM	PM	AM	PM	AM	PM	AM	PM

GANIS/
SANIS
Opening

Innovative and Emerging Ops

- Concept of operations above FL600/FL660
- UTM (UAS traffic management)
- Future of space Ops

Global RASG & PIRG Forum

- Opening
- PIRG
- RASG
- Way ahead

Future of CNS and Avionics

- Data link comms
- GNSS evolution
 - Dual-frequency, multi-constellation
 - GBAS/SBAS
- Phasing out legacy systems
- SURV evolution
 - Space-based ADS-B
 - ACAS evolution
- Standardization roadmap

Cyber threats

- Current and future threats
- A global SWIM enabler
- Solutions
- Risk mitigation

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Information management

- SWIM developments
- SWIM implementation and global interoperability
- SWIM demonstrations and applications

Airport operational performance

- Aerodrome capacity and efficiency
 - Airport master planning and design
 - Total airport management
- Aerodrome obstacle management

Civil-military cooperation

- Airspace, a common resource effectively managed collectively?
- Mission trajectories
- Cyber threats
- RPAS integration
- SWIM
- Interoperability
- Military mission effectiveness

MET

- Evolution of MET services requirements
- Future aviation MET service delivery
- WMO developments

Implementation strategies

Modernization of the Air Navigation System

- Familiarization with the GANP
- ASBU framework as support to cost-effective modernization of the ATM system, while ensuring interoperability of systems
- Performance management process
- GANP deployment tools

Safety

- GASP 2020-2022 and global implementation strategies
- RSOOs
- GADSS
- Safety Management
- Emerging issues

Airports

- Runway safety
- Ground handling
- Certification

P
B
N

Perf-based aerodrome operating minima

Support to No Country Left Behind
Best equipped best served; Advanced aircraft and PB AOM

Civil-military cooperation

- How to kick-start civil-military cooperation?
- Success stories and return of experience
- Flexible use of airspace and airspace management tools
- Advanced cooperation and integration

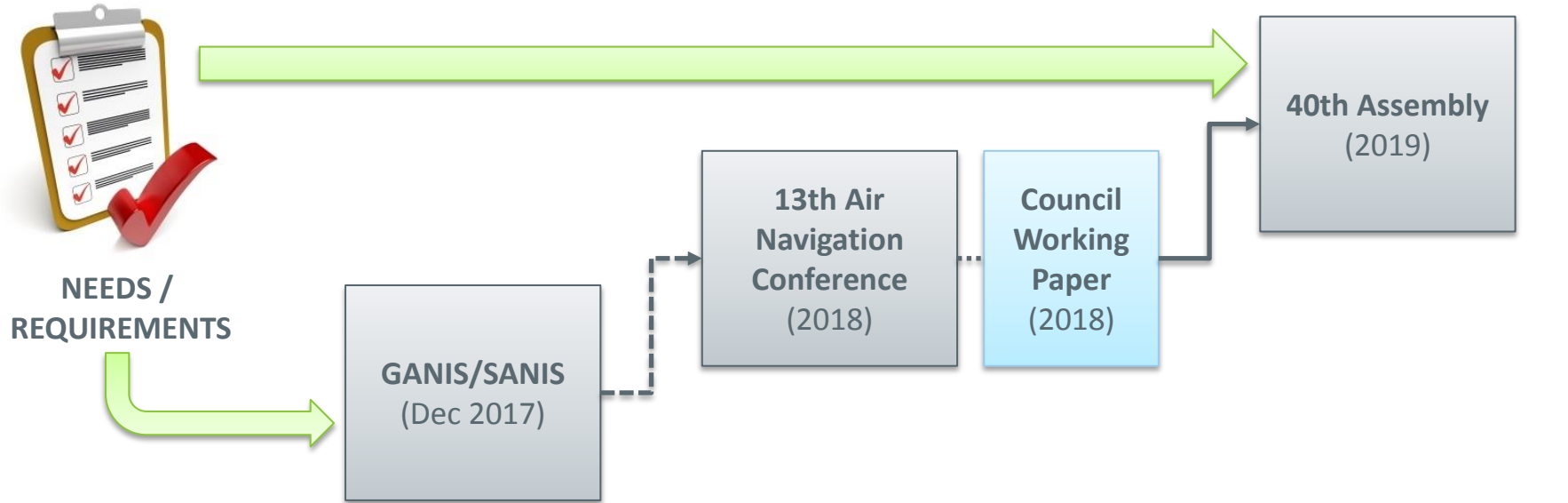
From concept to operation

Implementation success :

- Remote tower
- Free route airspace
- Time-based separation (on final)
- AIM

SANIS

Wrap-up



GANIS/SANIS will facilitate the planning of technical work for AN-Conf/13, and also the budget discussions leading up to A40



Safety Management Regional Symposia and Workshops



- **EUR/NAT** – Hosted by EC & Estonian Presidency in Tallinn / 16-18 October 2017
- **NACC and SAM** – Hosted by Peru in Lima / 12 – 16 March 2018
- **APAC and MID** – Hosted by Singapore / 23 - 26 April 2018
- **ESAF and WACAF** – 2018 (exact dates and location to be confirmed)

Note: 4 Workshops to be delivered with Symposia plus additional planned

2nd Global Runway Safety Symposium

(20-22 Nov, Lima, Peru)

- Co-organised with the Runway Safety Programme Partners
- Hosted by the Direccion General de Aeronautica Civil de Peru
- Event in English/Spanish, with 300 participants expected
- **Objectives:**
 - provide a global forum to **exchange information on best practices** in improving runway safety through the use of effective and innovative strategies, tools, technology and practices
 - promote improved runway safety worldwide through **global collaboration** and sharing strategies and best practices;
 - promote the ICAO-led collaborative new **Runway Safety Programme Action Plan** for supporting and strengthening runway safety initiatives;
 - promote the **participation of stakeholders in regional initiatives** related to runway safety; and
 - increase the number and improve the effectiveness of **airport Runway Safety Teams (RSTs)** under a risk-based approach in relation to airport safety management systems (SMS).



 ICAO **RUNWAY SAFETY PROGRAMME**
Working together to resolve a complex problem



ICAO Air Traffic Flow Management (ATFM) Global Symposium

ATFM: together, bringing every destination closer

Singapore, 20 to 22 November 2017

- **Articulating a worldwide perspective to support regional implementation**
 - Drawing on worldwide expertise to advance regional implementation
 - Organized in collaboration with CANSO, Eurocontrol, the FAA, and IATA with the support of Singapore CAAS.
 - 1st ICAO Conference builds on series of ATFM global events previously organized every two years
 - **Focus on :**
 - Long range solutions and measures; international cooperation
 - Collaborate to managing flows from the airport to cruising altitudes and beyond.
 - **Look ahead: and innovation**
 - A look into the immediate future: advanced flow management:
 - Broadening the scope: innovative flow management.



NEXT GENERATION OF AVIATION PROFESSIONALS GLOBAL SUMMIT

ICAO HQ MONTRÉAL, 27-28 NOV 2017



- Provides a unique opportunity to promote **coordination and cooperation** amongst the aviation community, education and labour sectors for the development of strategies and tools to engage and retain the next generation of aviation professionals.
- **Event Objectives:**
 - Continue to **raise awareness** regarding the impending shortage of aviation professionals and encourage CAAs to communicate and cooperate with government education and labour bodies to promote aviation as a profession.
 - Promote **cooperation and coordination** for the development of common NGAP guidelines or standards for use by all aviation stakeholders (i.e. civil aviation authorities, industry, international organizations and academia).
 - Promote the **exchange of knowledge, ideas, best practices and experiences** regarding NGAP related activities amongst States, industry, international organizations and academia.
 - Promote **collaboration between States and the aviation community** to identify long-term human resource needs and establish strategies to attract, educate and retain aviation professionals, considering gender equality.



GANIS
SANIS
2017

- > Second Global Air Navigation Industry Symposium (GANIS/2)
- > Safety and Air Navigation Implementation Symposium (SANIS)

ICAO Headquarters, Montréal, Canada, 11 to 15 December 2017

Global Aviation Safety & Air Navigation Updates

GANIS/SANIS – GLOBAL PLANNING FOR THE 40TH ASSEMBLY



Sustainability and enhancement of safety and air navigation system performance

- **Two back-to-back symposiums from 11 – 15 December 2017 in Montréal, Canada**
 - 2nd **Global Air Navigation Industry Symposium (GANIS)** to discuss issues and chart next steps to achieve a seamless global aviation system
 - 1st **Safety and Air Navigation Implementation Symposium (SANIS)** to offer a performance-based implementation methodology including the first **Global RASG/PIRG Forum**
- **Includes an Industry exhibition of current and emerging technologies**
 - Showcase solutions which will provide a snapshot of the global air navigation industry
 - Provide insight on how all stakeholders can work together to address technical, operational, regulatory and economic challenges
- **A crucial networking and knowledge-sharing opportunity**
 - Presentations from ICAO, international and regional organizations, standards-making organizations and leading industry stakeholders
- **Will lay the foundation for the 13th AN-Conference in 2018**



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Other Global Events

- *The Second Global Aviation Cooperation Symposium*
11 - 13 October 2017 Athens; Greece
- *ICAO World Aviation Forum - Financing the Development of Aviation Infrastructure*
27 - 29 November 2017 Abuja, Nigeria
- *Seminar on Green Airports*
27 November 2017 - 1 December 2017 ICAO HQ Montreal





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